



November 4, 2005

To All Interested Parties,

As stated in Section I: GENERAL INFORMATION, SCHEDULE OF EVENTS, the deadline for Final Questions for the Northern Tier Interoperable Communications Project Digital Microwave System RFP was October 28th, 2005 at 5:00 PM. Please find below a compilation of all questions received by that deadline along with the associated answers.

Sincerely,

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1. The RFP calls for a full microwave radio backbone. Is this a full requirement of the RFP or can a more secure, reliable, and scalable facilities be used, such as fiber optics? Are redundant routes a requirement or is a simple linear route acceptable?

The NTIC is seeking to procure and install a digital microwave radio backbone primarily to carry public safety radio traffic to transmission points at high, remote locations with limited accessibility. Fiber optics may be proposed as a limited subset of a predominantly microwave design, provided there are no ongoing lease costs associated with using fiber optics.

Redundancy is an absolute requirement due to the critical nature of public safety communications.

2. Are there any speed requirements for the mobile data portion of the RFP? Such as broadband speed of 200 k per second or is 28.8 k/second satisfactory? Does the RFP contemplate end user needs for the data equipment? (modems and electronic devices for accepting the data)

The MDT project has identified and procured all of its own equipment. They require the 4-wire circuits identified in the RFP. Please refer to Section IV: NTIP Project Description – T-1 REQUIREMENTS

3. Are there any distance requirements for the delivery of the mobile data to the vehicles receiving the data?

The MDT system uses standalone UHF radios. The only MDT requirement is the 4-wire circuits identified in the RFP to backhaul to the RMS server in Helena, MT.

4. The RFP calls for utilizing existing tower locations, have those tower locations been finalized and does the NTIC have access to those towers or will each vendor be required to negotiate access to the towers?

The NTIC is in the process of negotiating MOU's and lease agreements for the use of the locations identified in the RFP. This is not a requirement of the vendors.

5. Can you define or explain in clearer terms what is meant by "It will also provide for backwards compatibility during its implementation."?

The reference in the General Information section of the RFP is intended to provide background information so the vendors understand the scope of the radio project. The phrase mentioned refers to the requirement of the NTIP system to provide backward compatibility to analog conventional VHF radios during the implementation of the NTIP system, which is a P25 Trunked Hybrid system.

6. *Will this be a closed system or will this system be connected to the public switched network as well? If so, will each vendor need to negotiate interconnection agreements?*

The NTIP system will be a closed system.

7. *Are there any requirements for Internet Protocol packet transfer?*

The microwave system must be digital, and therefore capable of handling packet transfer.

8. *Is the \$2.2 million dollars set aside only for the backbone infrastructure or is that for the backbone infrastructure, the premise equipment at the locations, and the premise equipment in the vehicles?*

The RFP is for a completely functional, turnkey digital microwave system infrastructure.

9. *In our previous proposal we proposed MW at the following additional intermediate locations (no TI drop but site is needed for end to end connectivity)*

*Marion Mountain (between Blue Mtn and Blacktail Mtn)
Big Mountain (between Blacktail Mtn and Desert)
Cherry Ridge Blain (between Centennial and Antoine Butte)
Oliver (between Jette and Point Six)*

*Deadman (between Gideon and Wolf Point)
Mineral Butte (between Wolf Point and Culbertson)
Bainville (between Culbertson and Plentywood)*

The sites are shown on the enclosed diagram.

Can it be assumed that these sites are still available for inclusion in this RFP for site connectivity as needed?"

All of the sites listed are available for inclusion in this RFP if the vendor feels it's necessary for connectivity. However, in that sense they are viewed as repeater sites and as such it's the vendor's responsibility to ensure the facilities are adequate to house the equipment.

Any costs associated with improving the sites, including tower, shelter and generator requirements, must be borne by the vendor, or included in the pricing of their response to the RFP.

10. The RFP asks for the following performance

"The design for the digital microwave system must achieve 99.999% system availability."

Is this for the following:

*Two Way Availability
99.999 % Individual Hop Propagation Availability
10 E-06 BER Threshold*

This performance requirement means 99.999% system availability end-to-end for the entire system.

Clarification: By "end-to-end", the NTIC means the performance requirement means 99.999% system availability for each path in the network across the entire system.

11. On Page 25 of the RFP document under the heading ""Site Locations"", there is a statement as follows:

"The vendor may also identify existing microwave repeater sites and if they are able to negotiate the use of those sites, use them in their proposal." Please provide clarification since a vendor cannot negotiate in good faith for the use of microwave sites based solely on a potential contract award.

The NTIC expects vendors to respond with a turnkey solution. If vendors find they require repeater sites in order to provide a solid design that meets the requirements of the RFP, it's the responsibility of that vendor to either construct those sites, or negotiate with existing site owners. If a vendor feels that they cannot negotiate in good faith for the use of microwave sites based solely on a potential contract award, that vendor should propose a design that doesn't require the use of existing microwave repeater sites.

12. Page 24 references Loop Switch requirements. The microwave configuration in this RFP is a linear system not a loop. Please clarify the Loop Switch requirements for a linear system with no loop switching equipment being provided.

The NTIC digital microwave system is expected to be expanded at some point to be included in a statewide digital microwave system. Please refer to Section V: DELIVERABLE #1 – DIGITAL MICROWAVE SYSTEM, 1.i.i and 1.i.j

Please provide loop switch pricing per site as an optional cost.

13. *Page 22 states that the current system requires a combination of ring and hot standby protected circuits, with the capability of being upgraded to accommodate the statewide ring formation. The topology required for this RFP is for linear systems only. Please clarify the statement that the system requires a combination of ring and linear components.*

Please refer to question 12 above.

14. *Page 24 references DS0 circuit requirements. Please provide DS0 channel requirements including type and end locations for each circuit. This information is necessary for Channel Bank pricing.*

Each DS0 channel should be broken into 24 4-wire analog E&M capable circuits. Each will be backhauled to Helena, MT.

Please refer to Section IV: NTIP Project Description – T-1 REQUIREMENTS

15. *In section V (1) (i) (m) it states that the Design must utilize antenna mounted radio units. What is the allowable separation between the antenna and the radio since not all antennas are integrated with the radio, depending on the antenna size*

The maximum allowable separation between the antenna and the radio is 10'.

16. *In section V (1) (i) (m) it states that the Design must utilize antenna mounted radio units. A more reliable solution that does not require climbing the tower to service the radio would be to have the radio inside the equipment shelter. Is it acceptable to locate the radios inside the shelter to avoid climbing the tower for service? Will the use of radios located inside the equipment shelter mean that the 50 point max will automatically be reduced to 10 points?*

Vendors may propose a design which locates the radios inside the shelter. The use of radios located inside the equipment shelter will result in 10 points for that section of the RFP.

Please refer to Section VII: EVALUATION OF PROPOSALS

17. *If the proposed solution provides a better RF design, does the requirement in V (1) (i) (m) supersede this design or do you want the best RF design available for the network requirements?*

Vendors are welcome to submit in their proposal response any design they feel meets or exceeds the requirements specified in the RFP. All proposals will be evaluated based upon the evaluation criteria defined in Section VII: EVALUATION OF PROPOSALS

18. *Should all equipment and configurations proposed be commercially available at the time of the response? How long should the equipment have been available?*

As stated in Section II: ADDITIONAL TERMS AND CONDITIONS, MINIMUM QUALIFICATIONS, all equipment and configurations proposed should be commercially available at the time of the response.

19. *The question applies to the RECURRING MAINTENANCE AND SUPPORT ORGANIZATION table of the RFP. The NTIC has referenced in an August MOU that vendor support can best be delivered through the use of the Montana State Patrol services organization. If we accept this solution as a best solution is there still a requirement to provide information relative to maintenance and internal support organization required to operate the digital microwave system over the next several years?*

Yes, there is still a requirement to provide information relative to maintenance and internal support organization required to operate the digital microwave system.

Please refer to Section VI: PROPOSAL RESPONSE FORMAT, RECURRING MAINTENANCE AND SUPPORT ORGANIZATION.

20. *Sec I, Par Titled "Funding" Does the targeted project budget of \$2.2M include all services requested in this RFP? Does the budget include all microwave options, deployment, and maintenance cost? Does this also include existing site infrastructure upgrades that may be required to support proposed microwave network?*

The targeted project budget of \$2.2M includes all services requested in this RFP including all microwave options, deployment and any site infrastructure upgrades required beyond the locations identified in the RFP (a.k.a. repeater sites required by the proposed design).

21. *Sec I, Par Titled "Written Communication" Could you provide clarification on acceptable forms of communication. Would the NTIP accept e-mail as a formal means of written communication?*

E-mail is not an acceptable substitute for any item in the RFP requiring formal written communication.

Please refer to Section 1, WRITTEN COMMUNICATION.

22. *Sec II, Par Titled "Security" Can you confirm if the NTIP chooses to run background checks on projects contributors that these would be done at the NTIP expense?*

Yes, any required background checks will be done at the NTIC's expense.

23. *Sec II, Par Titled "Warranty" Please clarify the acceptance criteria for Full System with regards to the commencement of the warranty? Does the NTIP consider this to be at the point where the entire network is completely installed and operating? Or will the NTIP consider milestones for the project as various regions may encounter delays outside the control of the awarded vendor?*

As stated in the RFP, Section II: ADDITIONAL TERMS AND CONDITIONS, WARRANTY: "The warranty period shall begin upon official written acceptance of the full system by the NTIC."

24. *Sec II, Par Titled "Documentation Requirements" There is a reference under as-built documentation for a system coverage map to be provided. Is this map in reference to the trunking RF radio equipment? Or does this refer to a microwave topology map which denotes link type and capacities?*

This refers only to as-built microwave topology maps denoting link type and capabilities.

25. *Sec IV, Par Titled "Technical and Performance Requirements" The RFP calls out for 99.999% system availability. Could you please expand on the NTIP definition of System Availability? Does this refer to an end to end reliability or is it in a per hop basis?*

Please refer to question 10.

26. *Sec IV, Par Titled "System Overview" Regarding the requested capacity allocation of 1T1 for each noted National Guard Armory. Does the NTIP require the desired capacity to be budgeted only in the design of this network? Or does the NTIP desire the Armory sites be included in this proposal?*

The NTIC requires the desired capacity to be budgeted only in the design of the network.

27. *Sec IV, Par Titled "Site Locations" Regarding the use of repeater sites to interconnect the NTIP proposed sites. How does the participating vendor validate potential candidate sites? If these sites are owned by any of the agencies listed in this RFP can we contact the RFP coordinator to confirm the use? Also will the NTIP accept the use of solar power for remote sites where commercial power is unavailable?*

Please refer to Question 11.

The NTIC will be responsible for negotiating with site owners identified by the vendor for the use of those sites.

The NTIP will not accept the use of solar power for remote sites where commercial power is unavailable.

28. *Sec V, Par Titled "Deliverables #1 – Digital Microwave System No.1.i.d." Is the OC3 (84DS1) upgradeability requirement intended for all sites in the proposal?*

Yes.

Please refer to Section V: DELIVERABLES, DELIVERABLE #1 - DIGITAL MICROWAVE SYSTEM, 1.i.d AND 1.i.n

29. *Sec V, Par Titled "Deliverables #1 – Digital Microwave System No.1.i.n." Could you please clarify this requirement?*

The NTIC anticipates the system will grow to support a minimum of OC3 capacity and the intent of this RFP is to purchase hardware that does not require replacement to accommodate that growth.

30. *Are DC Power System's required for every site? If the answer is yes, please answer questions 2 to 6*

Yes.

31. *Are redundant chargers / rectifiers required?*

Yes.

32. *Should the Batteries be 10-year or 20-years?*

Batteries should be for 10-years.

33. *How much battery reserve is required and how much recharge time is required?*

All sites are planned to have generator backup, and as such battery reserve should be 2 hours. There is no requirement for recharge time. The vendor should propose industry standard.

34. *Should the DC power only provide power to the proposed equipment, or will you need additional loading for future expansion? If the answer is yes, how much additional loading should the power system to be sized for?*

The DC power should provide for the proposed equipment. Vendors are encouraged to propose optional pricing for future expansion based upon growth as stated in the RFP.

35. *Do you want a rack mounted battery system or floor mount?*

A rack mounted battery system is preferred, but vendors may propose the best solution for their design.

36. *Are either DS1 cross-connect panel or DS1 Jackfields required at each radio site? If yes, should the DS1 cross connect or jackfields be integrated and tested in the radio rack in the factory, or should they be shipped separately?*

Cross-connect panels are required at each radio site, and jackfields as required by proposed design. Where used, they must be integrated and tested in the radio rack in the factory.

37. *RFP page 24 "Loop Switch," are loop switches required as part of this bid, or are they simply a future requirement when the linear system is upgraded to a ring network?*

Please refer to Question 12.

38. *On Page 27 of the RFP, "The T-1 for MHP must be split out to 24 4-wire circuits at each drop." Does NTIP want the vendor to supply the channel bank equipment to supply these circuits at each location required for the MHP?*

Yes.

39. *The RFP does not state the requirement of who supplies the antenna and waveguide system required for the proposed radio system. Does the NTIP want the vendor to supply the antenna and waveguide system as part of their response? If the answer is yes, then should the vendor provide a dehydrator and manifold at each site?*

If a proposed design requires an antenna and waveguide system, the vendor should provide a dehydrator and manifold at each site as part of the proposal.

40. *If the channel banks are required then should they be integrated and tested in the radio rack in the factory?*

Yes.

41. *On page 25, the RFP states: "The vendor may also identify existing microwave repeater sites and if they are able to negotiate the use of those sites, use them in their proposal". To what extent should vendor do the negotiation? Is it just getting the permission of the site owner for possible use? Or should vendor go to the extent of negotiating the financial lease of the sites?*

The NTIC expects vendors to respond with a turnkey solution. If vendors find they require repeater sites in order to provide a solid design that meets the requirements of the RFP, it's the responsibility of that vendor to either construct those sites, or negotiate permission to use those sites with existing site owners. The NTIC will be responsible for negotiating with site owners identified by the vendor for the use of those sites.

42. *Can the existing or previously provided Microwave equipment in place be re-used (or) must all proposed radio links be new. If we can use the existing Microwave link please specify what links can be used.*

Yes, vendors may propose a design which utilizes existing microwave in use by the Fort Peck tribe, within Lewis & Clark County and within Missoula County. If upgrades are required to existing equipment, the costs associated with the upgrade must be clearly identified and included in the proposal cost.

43. *How is connectivity being provided between LEC and Gore Hill? Is providing connectivity between LEC and Gore Hill part of this RFP?*

Connectivity exists between the LEC and Gore Hill outside the scope of this RFP. Vendors are encouraged to propose a design that begins at Gore Hill.

44. *In reference to Western Connection (Option 2) and Eastern Connection (Option2), how does a vendor without existing microwave facilities bid this option fairly? Can the vendor reuse the existing microwave system in place?*

Western Connection (Option 2) and Eastern Connection (Option 2) were intended to provide vendors with the flexibility to propose options not specified in the RFP in order to meet the requirements of the RFP.

45. *Are there sites that the NTIP owns (i.e Big Mtn) that are not listed in this RFP that the vendor can use as repeater sites?*

Please see Question 12 above.

46. *If the linear system is eventually going to be a part of a statewide ring, at what sites will the system be interconnected?*

Those sites are unknown at this time.

47. *Please provide the height of existing towers?*

The NTIC expects vendors to provide a design that utilizes a minimum number of dishes at minimum dish elevations that still meet the performance and reliability requirements of the RFP. The scoring criteria for the RFP reflect that expectation. The NTIC views the tower height requirements to be driven by the microwave design.

48. *The RFP requests pricing for upgrading the microwave system to OC3. Should vendor design all the radios with the understanding all sites may be required to OC3 in the future, or are there specific sites as part of the backbone that would eventually upgrade to OC3 while the spurs will remain lower capacity?*

Please see Question 29 above.

49. *Please provide the coordinates for the LEC and MacDonald Pass.*

LEC: 46° 35' 9.26" N, 112° 2' 13.19" W

MacDonald Pass: 46° 35' 45.21" N, 112° 17' 55.04" W

50. *Are the coordinates for Miller correct? The longitude value of 115 degrees places the site in Idaho.*

They are incorrect. The correct coordinates are:
46° 45' 25.7" N, 113° 53' 22.4" W AMSL 6936

51. *On page 37, Item 4.3 Ten Year Phase I Cost is requested, on page 32 Table of Contents the Ten Year Phase I Cost is removed. Please clarify the request.*

Item 4.3 on page 37 is correct.

52. *On page 36, Item 3.8 Cost Digital Microwave System and page 37 Item 4.1 Cost Summary, Is this a duplicate? If so which Item should the vendor refer to?*

Item 3.8 is for costs of the digital microwave system. Item 4.1 is for costs of services.

53. *As a starting point, should the vendor include their standard Terms & Conditions for future negotiation?*

.Vendors may provide their standard terms & Conditions as a starting point for future negotiations.

54. *If a performance security bond is required, can the selected vendor add the cost to the bid price at the time of contract negotiations?*

No. The cost of performance security bonds must be included in the proposal.

55. *Bid bond is not required in the RFP, however, the details in Montana Code Annotated document 18-4-312, MCA referenced on page 20 of the RFP states otherwise. Please clarify.*

A performance bond is the only requirement of this RFP.

Please reference Section III: INSTRUCTIONS TO BIDDERS, PERFORMANCE BOND.

56. *What heights are available on existing towers to use for the microwave designs?*

Please refer to Question 47.

57. *What is the reference to "Line A" in the sentence "Vendors need to be aware that the majority of the NTIP falls above Line A." on Page 24?*

The definition of Line A in Section 90.7 is taken from Paragraph 2 of Arrangement A contained in the revised Technical Annex to the agreement between the United States and Canada on the "Coordination and Use of Radio Frequencies Above 30 Megacycles per Second", signed at Ottawa on June 16 and 24, 1965.

Please reference the FCC website at <http://www.fcc.gov/oet/info/maps/canline/linea.html> and <http://www.fcc.gov/oet/info/maps/canline/> for further information.

58. *Are there any requirements for battery backup power for the digital microwave? If so, how much backup time is required?*

Please refer to Question 33.

59. I don't understand the requirement for "pass-through connectivity" from the LEC to the Jette site, and LEC to the Centennial Site. Can you elaborate on pass-through connectivity?

The NTIC Digital Microwave system has a requirement for sites which require bandwidth to be delivered, as identified in Section IV: SITE LOCATION and Section IV: T-1 REQUIREMENTS. Any site that's required in order to connect the sites identified in Section IV: T-1 REQUIREMENTS, but do not require bandwidth to be delivered are a microwave repeater site. "Pass-through connectivity" refers to those microwave repeater sites.

60. Is the trunked radio equipment at the trunked radio sites in fact going to be Motorola "Smartzone"?

Yes.

61. In providing a T-1 circuit to the trunked radio sites, are we to provide 24 ea. 4WEM voice circuit interfaces at the site?

Please refer to Question 14.